

AMENDMENTS TO THE CLAIMS

1. **(Previously Amended)** A method of modulating bone resorption in an animal, said method comprising administering to said animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent, antagonist or agonist thereof for a time and under conditions sufficient for the modulation of osteoclastogenesis.

2. **(Currently Amended)** The method according to Claim 1 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:7 2 after optimal alignment.

3. **(Currently Amended)** The method according to Claim 1, wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:8 1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:8 1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:8 1 or its complementary from under low stringency conditions at 42°C.

4. **(Previously Amended)** The method according to Claim 1 wherein the modulation comprises a reduction in bone resorption.

5. **(Previously Amended)** The method according to Claim 4 wherein said bone resorption is a result of osteoporosis or Paget's disease.

6. **(Previously Amended)** A method for inhibiting, reducing or otherwise delaying onset or progression of bone resorption in an animal, said method comprising administering to said animal an effective amount of a leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof for a time and under conditions sufficient to inhibit, reduce or otherwise delay onset or progression of osteoclastogenesis.

7. **(Currently Amended)** The method according to Claim 6, wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:7 2 after optimal alignment.

8. **(Currently Amended)** The method according to Claim 7 wherein the leptin or its derivative, homologue, antagonist or agonist comprises an amino acid sequence have at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:7 2 after optimal alignment.

9. **(Previously Amended)** The method according to Claim 6 wherein said bone resorption is a result of osteoporosis or Paget's disease.

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10. **(Currently Amended)** A composition for modulating bone resorption, comprising a leptin having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:7 2 and one or more pharmaceutically acceptable carriers and/or diluents.

11. **Canceled**

12. **Canceled**

13. **(Previously Amended)** A method for inhibiting osteoclastogenesis in an animal, said method comprising administering to said animal an amount of a leptin or a derivative, homologue, analogue, chemical equivalent or agonist thereof effective to antagonize the osteoclastic effect of osteoclast differentiation factor (ODF) by stimulation of Osteoprotegrin (OPG) and/or inhibition of receptor activator of NF-kappa β (RANK) expression.

C 14. **(Currently Amended)** The method according to Claim 13, wherein the leptin or its derivatives, homologue, antagonist or agonist comprises an amino acid sequence having at least 60% similarity to the amino acid sequence set forth in SEQ ID NO:7 2 after optimal alignment.

15. **(Currently Amended)** The method according to Claim 13 wherein the leptin or its derivative, homologue, antagonist or agonist is encoded by the nucleotide sequence set forth in SEQ ID NO:8 1 or a nucleotide sequence having at least 60% similarity to SEQ ID NO:8 1 after optimal alignment or a nucleotide sequence capable of hybridizing to SEQ ID NO:8 1 or its complementary form under low stringency conditions at 42°C.

16. **(Previously Amended)** The method according to Claim 13 wherein said bone resorption is a result osteoporosis or Paget's disease.

17. **(Previously added)** The method of Claim 1 wherein said animal is a human.

18. **(Previously added)** The method of Claim 6 wherein said animal is a human.

19. **(Previously added)** The method of Claim 13 wherein said animal is a human.